

## Technical Notes

### How to Remove a Broken Tap

By Lynn Sondenaa

Have you encountered broken drill bits or broken taps that need to be removed from your Model A parts? There is a machine called an E.D.M. short for electro-discharge machining that does a very fast and accurate job of removal. Most modern machine shops have these tools, but the down side is the cost, usually about \$50 per use. I have a very effective solution that I use to remove broken drill bits and taps. Those items are made from tool steel or high speed steel. Basically they have higher carbon content than the metal around them, thus you can't drill them unless you use solid carbide drill bits which are very difficult to use and expensive. I first try using a scratch awl or scribe to break the drill bit into small pieces. If a tap is broken use a tap extractor which has four spring fingers that fit down the flutes of the tap. If that does not work I use a fluted concrete nail. I use the #9 gauge nail with a 21/64 head diameter and a length of 3 inches which is equivalent to a 10 penny nail. The concrete nails have a long diamond point. Their head and shank are hardened so they are equal in strength to the broken drill bit or tap. They work very well to break the item into small pieces. As a warning you are using a hammer with a hardened head, hitting a hardened nail, which in turn is hitting a hardened object. Small pieces of metal are sent flying so wear eye safety protection. Also if the concrete nail is hit really hard they tend to break rather than bend. I would recommend using a 16 ounce hammer.